

Stream	Warm Spring Run and Yellow Run		Level	3	Date(s)	11/20/12
Monitor(s)	Oaks, Lehman, Dean, Jones, Lucas and others					
Directions	Route 522 and Route 9 behind coldwell office		Start time	2:45		
			County	Morgan		
			RR Miles	Station	coldwell	
Latitude	37	28	Longitude	78	13	5 Watershed
						Warm Spring Run
						Database code

WATER CHEMISTRY

	Result	Units		Result	Units		Result	Units
Temp. (°F or °C)			Alkalinity			Fecal coliform/E-coli		
pH			Nitrate/Nitrite			Iron		
Conductivity			Phosphates			Aluminum		
Dissolved O ₂			Total Dissolved Solids			Manganese		
Acidity			Turbidity			Other (describe below)		

Describe other conditions analyzed:

PHYSICAL CONDITIONS

Water	<u>wsr murkey, yellow run clear</u>	Algae color	<u>brown</u>
Water color	<u>brown</u>	Algae abundance	<u>moderate</u>
Water/Sedi	<u>chemical</u>	Algae texture	<u>even coating</u>
Streambed	<u>brown</u>	Surface foam	<u>moderate</u>
Comments	<i>Lots of trash. Yellow Run and WSR impacted by gasoline spill at Sheetz on 11/13/12. Murky water in Warm Spring Run from drenching at the High School.</i>		

Riffle width	Run width	Pool width	
Riffle depth	Run depth	Pool depth	
			Feet Meters
			Indicate units

Estimate	Count			Entire reach		Riffles only	
Silt/clay	Sand	Fine gravel	Coarse gravel	Cobble	Boulder	Bedrock	Woody debris
Index					% Riffles	%	% Pools
						Runs	
			Woody debris adjustment				

HABITAT CONDITIONS

Attachment sites	17	Channel flow status	9	Embeddedness	15
Riffle frequency	8	Channel alterations	14	Bank veg. protection	6 8
Velocity/depth	8	Sediment deposition	10	Bank stability	8 7
Total Score	119	Channel shade	60-80%	Riparian buffer width	7 2
Integrity Rating	Marginal				
Comments					

BIOLOGICAL CONDITIONS

Richness		Composition		Tolerance	
Total Taxa	8	% EPT Abundance	84.9	Biotic Index	4.17
EPT Taxa	3	% Dominance	75.5	% Tolerant	1.9
				Stream Score	61.3
Other aquatic organisms observed or collected (e.g. fish, salamanders etc.), or additional comments:				Integrity Rating	Marginal
Discharge (cfs)				Water level	Low Normal High No flow
Current/past weather conditions: 11/20/12 clear 57 deg., 11/19/12, 11/18/12 and 11/17/12 were clear temp. high mid 50 degs.					

LAND USE IMPACTS: Indicate the types of land uses that affect your stream reach and their approximate location using the code: (**S**) streamside, (**M**) within ¼ mile, and (**W**) within the watershed. Also estimate the level of impact with the numeric codes (1) slight, (2) moderate, or (3) for high impacts.

	Impact	Location		Impact	Location
Single family residences			Trash dumps		
Sub-urban developments	1	w	Intensive feedlots		
Urban areas			Pastureland	2	w
Industrial areas	1	W	Cropland		
Parking lots, malls etc.	1	s	Oil & gas wells		
Bridges	1	s	Logging		
Paved roads	1	s	Mountaintop mining		
Unpaved roads	1	w	Abandoned mining		
Active construction	1	w	Deep mining		
Parks, trails etc	2	w	Quarries		
Other recreation			Other (describe)		
Landfills					

Comments:	Pipes?	Yes	Yes	No
manholes for sewer line in run				

BENTHIC MACROINVERTEBRATES: Record the total number of each macroinvertebrate collected. Note: In the VAD the macroinvertebrates are recorded in three columns based upon their tolerance rating.

Low	Total	Moderate	Total	High	Total
Ameletidae (Ameletid minnow mayfly)		Baetidae (Small minnow mayfly)		Coenagrionidae (Narrow-wing damselfly)	
Ephemereillidae (Spiny-crawler mayfly)		Beatiscidae (Armored mayfly)		Lestidae (Spread-wing damselfly)	
Heptageniidae (Flatheaded mayfly)		Caenidae (Square-gilled mayfly)		Libellulidae (Skimmer dragonfly)	
Isonychiidae (Brush-legged mayfly)	1	Ephemeridae (Burrowing mayfly)		Chrysomelidae (Reed beetle)	
Leptophlebiidae (Prong-gilled mayfly)		Potamanthidae (Hackle-gilled mayfly)		Dytiscidae (Predacious diving beetle)	
Siphonuridae (Primitive minnow mayfly)		Tricorythidae (Stout-crawler mayfly)		Halophilidae (Crawling water beetle)	
Capniidae (Small winter stonefly)		Hydropsychidae (Common netspinner)	4	Hydrophilidae (Water scavenger beetle)	
Chloroperlidae (Green stonefly)		Hydroptilidae (Purse-case caddisfly)		Belostomatidae (Giant water bug)	
Leuctridae (Rolled-wing stonefly)		Molannidae (Hooded-case caddisfly)		Corixidae (Water boatman)	
Nemouridae (Little brown stonefly)		Phryganeidae (Giant-case caddisfly)		Gerridae/Veliidae (Water striders)	
Perlidae (Common stonefly)		Polychromopodidae (Tube-net caddisfly)		Hydrometridae (Water measurer)	
Perlodidae (Patterned stonefly)		Psychomyiidae (Trumpet-net caddisfly)		Nepidae (Water scorpion)	
Peltoperlidae (Roach-like stonefly)		Pvralidae (Aquatic moth)		Notonectidae (Backswimmer)	
Pteronarcyidae (Giant stonefly)		Calopterygidae (Broad-wing damselfly)		Ceratopogonidae (Biting midge)	
Taeniopterygidae (Large winter stonefly)		Gomphidae (Clubtail dragonfly)		Chironomidae (Non-biting midge)	
Brachycentridae (Humpless-case caddisfly)		Drvopidae (Long-toed beetle)		Culicidae (Mosquito)	
Glossosomatidae (Saddle-case caddisfly)		Elmidae (Riffle beetle)		Muscidae (Muscid fly)	
Goeridae (Goerid-case caddisfly)		Gyrinidae (Whirligig beetle)		Psychodidae (Moth fly)	
Helicopsychidae (Snail-case caddisfly)		Sialidae (Alderfly)		Ptychopteridae (Phantom crane fly)	
Lepidostomatidae (Case-maker caddisfly)		Entomobryidae (Springtail)		Stratiomyidae (Soldier fly)	
Leptoceridae (Longhorn-case caddisfly)		Dixidae (Dixid midge)		Syrphidae (Rat-tailed maggot)	
Limnephilidae (Northern-case caddisfly)		Empididae (Dance fly)		Tabanidae (Horse fly)	
Philopotamidae (Finger-net caddisfly)	40	Simuliidae (Black fly)		Asellidae (Aquatic sowbug)	
Rhyacophilidae (Free-living caddisfly)		Tipulidae (Crane fly)	2	Ancylidae (Limpet snail)	
Uenoidae (Uenoid-case caddisfly)		Hydrachnidae (Water mites)		Physidae (Left-handed snail)	
Aeshnidae (Darner dragonfly)		Cambaridae (Crayfish)	1	Planorbidae (Orb snail)	
Cordulegastridae (Spiketail dragonfly)	1	Gammaridae (Sideswimmer)	2	Hirudinea (Leech)	
Psephenidae (Water penny)	2	Palaemonidae (Freshwater shrimp)		Nematoda (Round worm)	
Corydalidae (Hellgrammite/Fishfly)		Bithyniidae (Bithynid snail)		Nematomorpha (Horsehair worm)	
Athericidae (Watersnipe fly)		Pleuroceridae (Rock snail)		Oligochaeta (Aquatic worm)	
Blephariceridae (Net-wing midge)		Viviparidae (Viviparid snail)		Turbellaria (Flatworms)	
Hydrobiidae (Pebble snail)		Corbiculidae (Asian clam)		Tolerance unknown	
Unionidae (Mussel)		Sphaeriidae (Pea clam)		Hydrozoa (Freshwater jellyfish)	
				Neuroptera (Spongilliflies)	
				Spongia (Freshwater sponge)	